

CLAIMS

1. A magnetic recording medium comprising an orientation adjusting layer, a nonmagnetic under layer, a nonmagnetic intermediate layer, a magnetic layer and a protective layer sequentially stacked on a nonmagnetic substrate provided on a first surface thereof with a texture streak and used for a magnetic disc, wherein the nonmagnetic under layer contains at least a layer formed of a Cr-Mn-based alloy and possesses magnetic anisotropy having an axis of easy magnetization in a circumferential direction thereof.
2. A magnetic recording medium according to claim 1, wherein the magnetic anisotropy in an amount of residual magnetization has an index of 1.3 or more that is an amount of residual magnetization in a circumferential direction divided by an amount of residual magnetization in a radial direction.
3. A magnetic recording medium according to claim 1 or claim 2, wherein the layer Cr-Mn-based alloy that forms at least part of the nonmagnetic under layer has an Mn content in a range of 1 to 60 at%.
4. A magnetic recording medium according to claim 1 or claim 2, wherein the layer of Cr-Mn-based alloy that forms at least part of the nonmagnetic under layer has an Mn content in a range of 5 to 40 at%.
5. A magnetic recording medium according to any one of claims 1 to 4, wherein the nonmagnetic under layer at least possesses a stacked structure consisting of a Cr-Mn-based alloy layer and a Cr-Mo-based alloy layer formed thereon.
6. A magnetic recording medium according to any one of claims 1 to 4, wherein the nonmagnetic under layer at least possesses a stacked structure consisting of a Cr-Mn-based alloy layer and a Cr-Ti-based alloy layer formed thereon.

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7. A magnetic recording medium according to any one of claims 1 to 6, wherein the nonmagnetic substrate is formed of amorphous glass or crystallized glass.
8. A magnetic recording medium according to any one of claims 1 to 6, wherein the nonmagnetic substrate is formed of a single crystal Si or a polycrystal Si.
9. A magnetic recording medium according to any one of claims 1 to 8, wherein the texture streak on the nonmagnetic substrate for the magnetic disc has a linear density of 750 pieces/mm or more.
10. A magnetic recording medium according to any one of claims 1 to 9, wherein the orientation adjusting layer is formed of at least one layer of alloy selected from the group consisting of Co-W-based alloy, Co-Mo-based alloy, Co-Ta-based alloy, Co-Nb-based alloy, Ni-Ta-based alloy, Ni-Nb-based alloy, Fe-W-based alloy, Fe-Mo-based alloy and Fe-Nb-based alloy.
11. A magnetic recording medium according to any one of claims 1 to 10, wherein the nonmagnetic intermediate layer is formed of at least one layer of alloy selected from the group consisting of Co-Cr-based alloy, Co-Cr-Ta-based alloy, Co-Cr-Ru-based alloy, Co-Cr-Zr-based alloy and Co-Cr-Pt-based alloy.
12. A magnetic recording medium according to any one of claims 1 to 11, wherein the nonmagnetic intermediate layer possesses a stacked structure consisting of a layer of at least one alloy selected from the group consisting of Co-Cr-based alloy, Co-Cr-Ta-based alloy, Co-Cr-Ru-based alloy, Co-Cr-Zr-based alloy and Co-Cr-Pt-based alloy and a layer of Ru or Ru alloy formed thereon.
13. A magnetic recording medium according to any one of claims 1 to 12, wherein the magnetic layer contains one or more alloys selected from the group consisting of Co-Cr-Pt-based alloy, Co-Cr-Pt-Ta-based alloy, Co-Cr-Pt-B-based alloy, Co-Cr-Pt-B-Ta-based alloy and Co-Cr-Pt-B-Cu-based alloy.

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14. A magnetic recording medium according to any one of claims 1 to 13, wherein the first surface of the orientation adjusting layer has undergone a treatment for exposure to an ambient gas containing 5×10^{-4} Pa or more of oxygen gas.

15. A magnetic recording and reproducing device comprising the magnetic recording medium according to any one of claims 1 to 14 and a magnetic head for enabling information to be recorded in and reproduced from the magnetic recording medium.